IN THE

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT

THE STELOS COMPANY, INC.,
Plaintiff-Appellant,

vs.

HOSIERY MOTOR-MEND CORPORATION, KAYSER HOSIERY MOTOR-MEND CORPORATION, JULIUS KAYSER & COMPANY, *a corporation*,
Defendants-Appellees.

PETITION OF THE STELOS COMPANY, INC. FOR REHEARING

Now comes The Stelos Company, Inc., appellant, and respectfully represents that on the 31st day of July, 1934, an opinion was filed in this appeal directing that the decree of the District Court be reversed, so far as it declared claim 23 invalid; but directing that the decree be affirmed, so far as it dismissed the bill for non-infringement.

The opinion of this Court apparently turns on the erroneous assumption that defendants do not hold their needle laterally out of alignment with the run, *whereas they do*, as the record indisputably proves,

although the point was not touched upon in the decision of the trial Court, and for that reason it was neither briefed nor argued before this Honorable Court. And yet the main, and we might say, only question at bar, originally and now, is the question of infringement.

The reason for filing this petition for a rehearing is to call to the attention of the Court that the evidence on infringement unmistakably shows that defendants' operators do hold the needle off to one side of the run, that is, "laterally out of alignment with the run."

The evidence shows this in at least twelve different answers and by no less than seven different witnesses.

This was proven not only by a number of plaintiff's witnesses but also by the demonstration in court by defendants' operator and the admissions of the operator that the needle is held off to one side in the use of defendants' machines. In fact there has been little question on this point, which probably accounts for the failure to emphasize it before this Court.

Defendants' own demonstrator and witness, Adamcik, demonstrated in court defendants' process and held the needle laterally at one side of a plane perpendicular to the fabric and passing through the run. She testified with respect thereto as follows:

"• • • You can hold it a little to the side". (R. p. 537, fol. 1609.)

• • • • •

"XQ. 104. I notice that occasionally *you are using it just a little off to the side.* A. *Yes, sir.*

3

* * * * *

"XQ. 106. But sometimes they do work it off at the side? A. *Some girls have a tendency to put it over to one side,* * * *

* * * * *

"XQ. 109. You are now using it *a trifle off parallel now.* A. *Just slightly.*" (R. p. 541, fols. 1621 and 1622.)

* * * * *

"* * * *Some of the girls hold it just about the way you hold a pen or pencil.* * * * they just change and hold it to the side. It flops very easily, because the needle is straight." (R. p. 544, fols. 1630 and 1631.)

Plaintiff's witness, Losh, testified:

"I saw the Vanitas system of hosiery repair in operation at the Knitting Arts Exhibition at Philadelphia, Pennsylvania, in the spring of 1930. At that exhibition, the Kayser Hosiery Motor-Mend Company had a public demonstration of the operation of the Vanitas system. I watched the operator * * * *working at an angle, to the side,* * * * *holding the needle always at an angle to the plane, an angle away from the line of the fabric in the position as a man would naturally hold a pen or pencil.*" (R. pp. 171 and 172, fols. 513, 514 and 515.)

Plaintiff's witness, Dickson, testified as follows:

"* * * I saw the Vanitas system demonstrated to me in the offices of the Kayser Hosiery Motor-Mend Corporation in New York City by their own demonstrators. * * * The needle was held in a way convenient to the operator. *They held it off to the side of the run they were repairing.* They would hold it more or less at an angle. No one girl would operate at an angle like another girl. Different girls operated it different angles to the

plane of the fabric. I saw the manner in which the needle of one of the girls was held, and *she would hold it first over this way and then sometimes over that way.* She would operate it that way." (R. pp. 188 and 189, fols. 564-566.)

Plaintiff's witness, Storb, testified as follows:

"* * * A little later in the day, we went to Gimbel's * * * We actually saw the machines in operation. *The young ladies held the needles the way our girls held the Stelos* needles. They place the fabric over an egg cup or holder; such as we used, started the run exactly the same as our girls started the run, with hand needles. After they started the run, they turned on the power and the machine automatically knit the fabric. I saw that with my own eyes. (R. p. 202, fols. 605-606.)

Plaintiff's witness, Crosby, testified as follows:

"At the Knitting Arts Exhibit, there were three girls demonstrating the Vanitas system. It was the first girl closest to the rail that I observed. * * * *She held that device at an angle away from the fabric and off in what could best be described, I presume, as a natural writing position for pen or pencil.*

* * * * * *

"I also observed the other girls and found that they were operating in the same manner although the two girls held their devices at different angles. They were not all the same, but *they all came within the general description of the convenient way of holding a pen or pencil.*" (R. pp. 223 and 224, fols. 668-671.)

Plaintiff's witness, Harvey, testified as follows:

"I observed that operation of the Vanitas System, at the Colonial Hosiery Repair Company, New York City. * * * The first observation I

made at the Colonial was in April or May, 1930. *The girl held the operating device at an angle off the plane of the stocking in the same position one would hold a pen or pencil.*" (R. pp. 233 and 234, fols. 699-701.)

Plaintiff's expert witness, Dahn, testified as follows:

"I have seen the Vanitas system, what I understood to be Vanitas system, in use, so advertised at the Hosiery Show in Philadelphia, in the spring of 1929 and 1930, as I recall.

* * * * * *

"According to my recollection and observation she held this needle or the instrument, *the needle holder over to the right of the vertical plane, passing through the run rather than directly in the plane.*" (R. pp. 792 and 793, fols. 2375-2377.)

The Vanitas system or machine referred to by some of the witnesses is conceded to be the system or machine used by defendants, as represented by Van Dyke patent No. 1,745,462, (R. pp. 994-1000), which patent shows the needle in Fig. 6, (R. p. 994) turned laterally of the run.

In this connection see defendants' Exhibit Y-63, Vanitas machine.

The foregoing testimony and the demonstration in the District Court by defendants' operator, Adamcik, are believed to show conclusively that defendants' method comprises the step of holding the needle "laterally out of alignment with the run" or to one side of a plane which is normal to the plane of the fabric and passes through the run, and apparently the District Court so found since there was no finding of lack of infringement or of estoppel with respect to the words in the claim "laterally out of alignment with the run".

Since this testimony must have escaped the attention of this Court, quite likely due to lack of stress in brief and argument, it is respectfully asked that a rehearing be granted for the purpose of further consideration of the testimony set forth above, with a view of showing infringement by defendants.

Respectfully submitted,

BURKE AND BURKE,
Solicitors for Plaintiff-Appellant.

VERNON E. HODGES,
HENRY GILLIGAN,,
J. PRESTON SWECKER,
H. HAMLIN HODGES,
Of Counsel.

Washington, D. C., August 15, 1934.

We, Vernon E. Hodges and Henry Gilligan, DO HEREBY CERTIFY that in our judgment the foregoing petition for a rehearing is well founded and that the same is not interposed for delay.

VERNON E. HODGES

HENRY GILLIGAN

[fol. 1353] UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

THE STELOS COMPANY, INC., Appellant,

against

HOSIERY MOTOR-MEND CORPORATION, KAYSER HOSIERY MOTOR-MEND CORPORATION, JULIUS KAYSER & Co., a Corporation, Appellees

ON PETITION FOR REHEARING

Burke & Burke for the petitioner.

Per CURIAM:

The defendants will reply to the plaintiff's brief for a rehearing in a brief to be filed on or before October 22nd, 1934, of not over twenty pages.

——— ———, U. S. Circuit Judges.

Filed Oct. 11, 1934.

[fol. 1354] UNITED STATES CIRCUIT COURT OF APPEALS, SECOND CIRCUIT

At a stated term of the United States Circuit Court of Appeals, in and for the Second Circuit, held at the Court Rooms in the Post Office Building in the City of New York, on the 18th day of October, one thousand nine hundred and thirty-four.

Present: Hon Learned Hand, Hon. Augustus N. Hand, Hon. Harrie B. Chase, Circuit Judges.

THE STELOS COMPANY, INC., Plaintiff-Appellant,

vs.

HOSIERY MOTOR-MEND CORPORATION, KAYSER HOSIERY MOTOR-MEND CORPORATION, JULIUS KAYSER & Co., a Corporation, Defendants-Appellees.

A petition for a rehearing having been filed herein by counsel for the appellant;

Upon consideration thereof it is ordered that defendants will reply to the plaintiff's brief for a rehearing in a brief to be filed on or before October 22nd, 1934, of not over twenty pages.

Wm. Parkin, Clerk.

[fol. 1355] [Endorsed:] United States Circuit Court of Appeals, Second Circuit. The Stelos Company, Inc., vs. Hosiery Motor-Mend Corp., and others. Order. United States Circuit Court of Appeals, Second Circuit. Filed Oct. 18, 1934. William Parkin, Clerk.

[fol. 1356] UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

THE STELOS COMPANY, INCORPORATED, Appellant,

against

HOSIERY MOTOR-MEND CORPORATION, KAYSER HOSIERY MOTOR-MEND CORPORATION, JULIUS KAYSER & COMPANY, a Corporation, Appellees

Before L. Hand, Augustus N. Hand and Chase, Circuit Judges.

ON PETITION FOR REHEARING

Burke & Burke for the Petitioner.

Per CURIAM:

Petition denied.

——, U. S. Circuit Judges.

[fol. 1357] UNITED STATES CIRCUIT COURT OF APPEALS, SECOND CIRCUIT

At a stated term of the United States Circuit Court of Appeals, in and for the Second Circuit, held at the Court Rooms in the Post Office Building in the City of New York,

on the 2nd day of November, one thousand nine hundred and thirty-four.

Present: Hon. Learned Hand, Hon. Augustus N. Hand, Hon. Harrie B. Chase, Circuit Judges.

STELOS COMPANY, Plaintiff-Appellant,

vs.

HOSIERY MOTOR-MEND CORPORATION ET AL., Defendant-Appellees.

A petition for a rehearing having been filed herein by counsel for the appellant:

Upon consideration thereof it is ordered that said petition be and hereby is denied.

Wm. Parkin, Clerk.

[fol. 1358] [Endorsed:] United States Circuit Court of Appeals, Second Circuit. Stelos Company vs. Hosiery Motor Mend Corp'n. Order. United States Circuit Court of Appeals, Second Circuit. Filed Nov. 22, 1934. William Parkin, Clerk.

[fol. 1359] UNITED STATES OF AMERICA,
Southern District of New York:

I, William Parkin, Clerk of the United States Circuit Court of Appeals for the Second Circuit, do hereby certify that the foregoing pages, numbered from 1 to 1358, inclusive, in three volumes, contain a true and complete transcript of the record and proceedings had in said Court, in the case of The Stelos Company, Inc., Plaintiff-Appellant, against Hosiery Motor Mend Corporation et al., Defendants-Appellees, as the same remain of record and on file in my office.

In testimony whereof I have caused the seal of the said Court to be hereunto affixed, at the City of New York, in the Southern District of New York, in the Second Circuit, this 13th day of December, in the year of our Lord one thousand nine hundred and thirty-four, and of the Independence of the said United States the one hundred and fifty-ninth.

Wm. Parkin, Clerk. (Seal United States Circuit Court of Appeals, Second Circuit.)

[fol. 1360] SUPREME COURT OF THE UNITED STATES, OCTOBER TERM, 1934

No. 588

ORDER ALLOWING CERTIORARI—Filed February 18, 1935

The petition herein for a writ of certiorari to the United States Circuit Court of Appeals for the Second Circuit is granted. And it is further ordered that the duly certified copy of the transcript of the proceedings below which accompanied the petition shall be treated as though filed in response to such writ.

[fol. 1361] SUPREME COURT OF THE UNITED STATES, OCTOBER TERM, 1934

No. 653

ORDER ALLOWING CERTIORARI—Filed February 18, 1935

The petition herein for a writ of certiorari to the United States Circuit Court of Appeals for the Second Circuit is granted. And it is further ordered that the duly certified copy of the transcript of the proceedings below which accompanied the petition shall be treated as though filed in response to such writ.

[fol. 1362] IN SUPREME COURT OF THE UNITED STATES, OCTOBER TERM, 1934

No. 588 and No. 653

STIPULATION AND ADDITION TO RECORD—Filed March 1, 1935

It is hereby stipulated and agreed by and between counsel for the parties to the above-entitled cause, subject to the approval of the Court, that the printed transcript of record which was used in the United States Circuit Court of Appeals, for the Second Circuit, may be used in this court upon the filing of the number of copies thereof that may be required by the Clerk of the Court, with the addi-

tion of pages 1341 to 1359, inclusive, that were printed to include the proceedings in the United States Circuit Court of Appeals, for the Second Circuit, and with the further addition of portions of Plaintiff's Exhibit 33, namely, the certificate, the face of the file wrapper of patent No. 1,564,379, the page containing original claims 8, 9, and 10, the Official Action dated April 25, 1924, and the amendment filed August 28, 1924, it being hereby stipulated that the remainder of said exhibit need not be printed.

[fol. 1363] It is also stipulated and agreed that counsel hereby waive their right to service of complete copies of the record, except that a copy of the printed addition to the record containing excerpts from Plaintiff's Exhibit 33 should be served on a counsel for each party.

It is further stipulated and agreed that in lieu of reproducing in the record Defendants' Exhibit N-52, a printed copy of Finch patent No. 1,674,508 will be bound in the record,

Vernon E. Hodges, Counsel for The Stelos Company, Inc.

Washington, D. C., February 27th, 1935.

J. B. Wooster, Counsel for Hosiery Motor-Mend Corporation and Kayser Hosiery Motor-Mend Corporation.

New York City, N. Y., February 28, 1935.

Hardy, Stancliffe & Hardy, J. W., Counsel for Julius Kayser & Company.

New York City, N. Y., February 28, 1935.

[fol. 1363½] [File endorsement omitted.]

[fol. 1364] [Stamp:] U. S. Dist. Court, S. D. of N. Y. Pl'ff's Ex. 33. Mar. 25, 1931. E. 48-16

390

Department of Commerce, United States Patent Office

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the File Wrapper, Contents and

Drawing, in the matter of the Letters Patent of Frank C. Stephens, Assignor, by Mesne Assignments, to The Stelos Company, Inc., Number 1,564,379, Granted December 8, 1925, for Improvement in Needles and Their Methods of Use.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed, at the City of Washington, this twenty-fifth day of May, in the year of our Lord, one thousand nine hundred and twenty-seven and of the Independence of the United States of America the one hundred and fifty-first.

Thomas E. Robertson, Commissioner of Patents.

(Seal Patent Office, United States of America.)

Attest: D. E. Wilson, Chief of Division.

(Here follows photolithograph side folio 1365; 1366 to 1376 omitted in printing.)

Co

1564379

NUMBER (Series of 1915)

664720

(EX'R'S BOOK) 122

DIV. 21

PATENT No. 1564379

Name of Inventor FRANK C. STEPHENS. DEC 8 1925

~~Assignor of two-thirds to Frank A. Cook, of San Francisco, Calif. to The Stelos Company, Inc., of Wilmington, Del., a corp. of Delaware by mesne assgts. to Inventor~~ Stelos Company, Inc., a corp. of Delaware

Residence WASHINGTON

DISTRICT OF COLUMBIA

Invention NEEDLES AND ITS METHOD OF USE

Filed June 3, 1926. #163340

ORIGINAL	RENEWED
APPLICATION FILED COMPLETE SEP 25, 1923	62/78 EV 25 66 77 31 40
PARTS OF APPLICATION FILED: Petition, Specification, Oath, First Fee, $30, 1 sheets Drawings, SEP 25, 1923	
Examined and passed for Issue Mar 7, 192	, 192
W. L. Thurlow Exr. Div. 21	Exr. Div.
Notice of Allowance MAR - 1925, 192	DEC 8 - 1925 By Commissioner, 192
Final Fee $20 Sept 8, 192	, 192
Patented	, 192

Division of App. No.

Patented VERNON E. HODGES 605 7TH ST N W CITY

Attorney

~~No Revenue Stamp~~

Associate Attorney

(No. of Claims Allowed 15) Print Claim 1 to O. G. (Cl. 66-2)

Title as Allowed Needle and its Method of use

18

1365=1375

operation of the needle, the needle being notched or recessed at a point opposite the end of the latch or bridge when the latter is open.

13. A needle having a magnetized hook at one end, curved laterally to a desired degree off center, a magnetized latch or bridge pivoted in proximity to the hook and in position to open and close the latter with the operation of the needle, said latch or bridge being curved laterally to a degree to cause it to project slightly to one side of hook when in closed position, the needle being notched or recessed at a point opposite the end of the latch or bridge when the latter is open.

14. A needle having a magnetized hook at one end, a magnetized latch or bridge pivoted in proximity to the hook and in position to open and close the latter with the operation of the needle, the needle being notched or recessed at a point opposite the end of the latch or bridge when the latter is open, and a beveled side guard attached at the handle end to one side of the needle and terminating at its free end near the hook.

10. A method of needle work which consists in stretching the fabric over a suitable holder, and inserting a needle having a magnetized, curved hook, a magnetized curved latch or bridge and a beveled side guard, through the loop of a run or raveling, grasping the adjacent thread with the latch forcing it into the hook, pulling thr thread through the loop, grasping the next thread, forcing it into the hook and pulling it through the loop formed, etc., until the run or raveling is repaired.

[fol. 1377] [Stamp:] U. S. Patent Office. Mailed Apr. 25, 1924.

60

Div. 21. Room 212

Address only "The Commissioner of Patents, Washington, D. C.," and not any official by name.

RFL:PB.

Paper No. 2

All communications, respecting this application should give the serial number, date of filing, title of invention, and name of the applicant.

Department of the Interior

United States Patent Office

Washington

Vernon E. Hodges,
#605-7th St., N. W., City.

Please find below a communication from the Examiner in charge of the application of Stephens, Ser. No. 664,720, filed Sept. 24, 1923, for Needles and its Method of Use.

Thomas E. Robertson, Commissioner of Patents.

References:

Bickford, 132,382, Oct. 22, 1872, (66-5;N28);
Egly, 956,318, Apr. 26, 1910, (66-5;N28);
Jones, 386,636, July 24, 1888, (66-22;N20);
(German) Hartig, 106,861, Dec. 19, 1899, (66-21; N3.8), 1 sht.;
(British) Pogson, 168,817, Sep. 15, 1921, (66-17; N25), 1 sht.

It is not clear that the hook and latch could be effectively magnetized to serve the purpose set forth by applicant. The utility of the so-called guard 6 is not clear. It is noted that applicant states that the guard spreads the threads so as to prevent the hook from catching them on the forward stroke and also to prevent the hook from catching the side of the fabric. If by forward stroke applicant is referring to the direction taken by the hook when inserting the same, it is not clear that there would be any tendency for the said hook to catch the fabric. In fact the pointed guard

6 would be liable to catch an adjacent strand of the fabric. If by forward stroke applicant means the stroke taken when withdrawing the needle it is not clear that the guard would effectively serve to shield the hook.

On page 6, applicant states that if by any chance the hook should grasp more than one thread, the loop a would [fol. 1378] force the latch to one side of the hook and allow the said loop a to slide into the hook. It is not clear how the mere taking of an additional yarn or thread by the hook would bring about this result.

The last paragraph, page 8 should be cancelled as it is not apparent that the alleged modification could be completely shown without involving the introduction of new matter.

Claim 10, which is drawn to the combination of a method and a specific construction of the needle, is rejected. The invention, if any, resides in the specific element. The alleged method is fully disclosed in Pogson.

Action on the remaining nine claims is reserved until applicant overcomes the objections above noted. It is requested that applicant file an exhibit of his device.

W. L. Thurber, Exr. Div. 21.

[fols. 1379-1414] [Stamp:] Application Div., U. S. Patent Office. Aug. 28, 1924.

[Stamp:] United States Patent Office. Aug. 30, 1924. Div. 21 Textiles.

Amendment A

Paper No. 3

In the United States Patent Office

Div. 21. Room 212

In re application of Frank C. Stephens. Needles and Method of Use. Filed September 24, 1923. Serial No. 664,720.

Hon. Commissioner of Patents.

Sir:

Cancel the last paragraph of the specification.

It is believed that the other points that were not clear have been made so at the oral interview, at which time an exhibit was filed.

Cancel claim 10 and insert:

15. An improved method of repairing runs or ravelings in a fabric, which consists in stretching the fabric over a suitable holder, inserting a repairing device having a hook and pivoted latch through a loop formed in the run or raveling, continuing this movement on through the fabric while holding the device laterally out of alignment with the run or raveling until the loop has slid back over the end of the latch and beneath the latter, then reversing the movement of the device through the loop, catching the next forward thread in the hook while the loop is being pulled over the latch causing the latch to close over the thread, and the loop to be cast off over the end of the device, the thread caught in the hook thereupon forming a new loop, taking the place of the first-described loop, then re-inserting the device into the fabric as before, and repeating the operation until the run or raveling has been repaired, and finally fastening the thread.

Favorable action is respectfully asked.

Respectfully, V. E. Hodges, Attorney.

Washington, D. C., August 27, 1924.

(6085-C)

1366A

June [illegible], 1928. 1,674,508

S. W. PINCH

NEEDLE AND THE LIKE

Filed Oct. 6, 1927

Fig. 1.

Fig. 2.

Fig. 3.

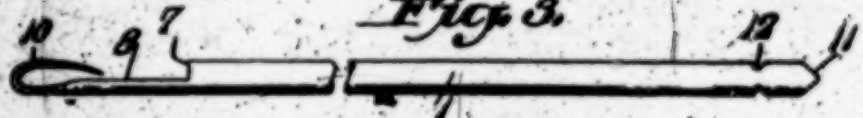


Fig. 4.

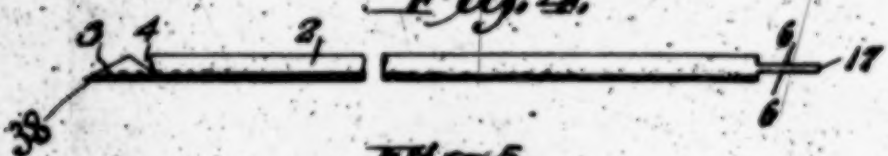


Fig. 5.

Fig. 6.

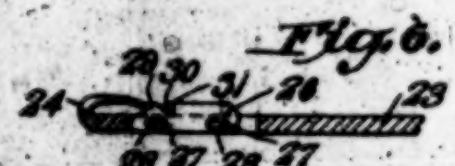


Fig. 7.

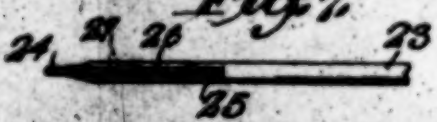


Fig. 8.

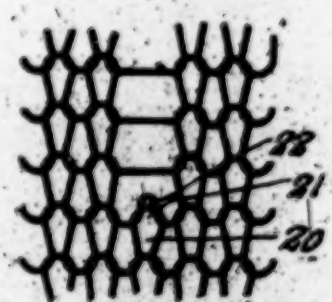
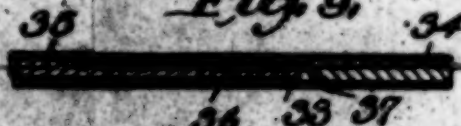


Fig. 9.



Inventor:

Stanley W. Pinch

13P6B

Patented June 19, 1928. 1,674,566

UNITED STATES PATENT OFFICE.

STANLEY W. FINCH, OF WASHINGTON, DISTRICT OF COLUMBIA.

NEEDLE AND THE LIKE.

Application filed October 6, 1927. Serial No. 224,479.

This invention relates to needles, and more particularly a needle adapted for repairing runs or ravelings in stockings and other knitted fabrics.

Needles now in use for such purposes ordinarily have a body member with a hook formed at one end and a latch member pivoted to the body member, the free end of the latch member being adapted to fly up and down as the needle is moved forward and backward through the fabric being repaired, thus opening and closing the hook as may be necessary to perform the repair work. The problem with such needles is to cause the free end of the latch to be raised quickly during the downward movement of the hook member, so that the point of the latch will not catch in the fabric and delay the operation or injure the fabric.

My needle has no pivoted member and consequently does not encounter the difficulty above pointed out. My needle has an elongated body member, at one end of which a hook is formed, said body member also having a longitudinally disposed opening in which a latch member slides back and forth for the purpose of opening and closing the hook. There are also suitable means for limiting the distance through which the sliding member can move in longitudinal direction away from the hook and also means to prevent or limit the amount of the turning motion of the sliding member.

One of the numerous advantages of this new type of needle is its cheapness and simplicity of construction. Another advantage is the fact that, by reason of its compact construction, it is necessary to move the needle only a relatively short distance backward and forward through the fabric in order to reknit or crochet the rungs of the ladder constituting the runner portion of the stocking and thus make the repair, whereas, with pivoted-latch needles heretofore used, a much longer movement of the needle is necessary to accomplish this purpose. This shorter movement of my needle results in greater speed and ease of operation than has heretofore been possible.

My needle also has the advantage, (because of its simplicity of construction and the absence of the awkward swinging latch of the old type of needle) of being practically free from the possibility of damage during its operation and also while it is lying around in a shop when not in use.

In the accompanying drawings Fig. 1 is an enlarged side elevation, partly in section, of my needle in its preferred form.

Fig. 2 is a plan view.

Fig. 3 is a side elevation of the body member of the needle.

Fig. 4 is a side elevation of the sliding latch member of the needle.

Fig. 5 is a perspective view of the beveled end portion of the sliding latch.

Fig. 6 is an enlarged view, partly in section, of a somewhat modified form of the needle.

Fig. 7 is a plan view of such modified form.

Fig. 8 is an enlarged view of fabric containing a run or raveling of the kind for the reknitting or crocheting of which my needle is primarily designed.

Fig. 9 shows the rear portion of the needle with modified means for regulating the movement of the slideable member.

The preferred form of my needle consists of but two units, the body member 1 and the sliding latch member 2. The needle in this form includes a tube, and a rod adapted to fit slideably in said tube. To form the sliding latch member one end of the rod is beveled as at 3, and a notch 4 is made adjacent the beveled portion 3. Opening 5 is then formed in the upper portion of the face of the oval made by the beveling operation. The opposite end of the sliding latch member is ground or otherwise cut to form the opposing flat surfaces 6, 6.

To form the body member one end of the tube employed for this purpose is cut away on its upper side so as to make a shoulder 7, a flat approximately half-round open channel portion 8, and a needle-like portion which is subsequently bent to form a hook 10, the point of such hook being positioned so as to fit into the opening 5 of the sliding latch member when such member is moved into position to close the open end of the hook. When the body member and latch member have been assembled, the rear end of the body member is preferably closed as at 11. (This is easily accomplished by cutting off the tube at the proper point with a pair of cutting pliers), thus delimiting the sliding movement of the shuttle member away from the hook. Small sections of the opposite sides of the body member adjacent such closed end are then forced inwardly (preferably with a pair of cutting pliers)

as at 12, 12, toward the flattened surfaces 6, 6, of the latch member, thereby preventing any objectionable turning movement of the latch member but permitting the latch to slide freely longitudinally within fixed limits.

The needle, when properly assembled, functions in the following manner. The fabric to be repaired is first placed under a slight tension. The hook end of the needle is then forced into the fabric at 20, just back of one of the last loops of the run or raveling and the tension on the fabric is then increased. As the needle is pushed downwardly the loop 21 slips up over the hook and also over the top of the beveled portion 3 until said loop rests in the notch 4 and closes over the two members of the needle at that point. At the same time the thread 22 straightens out to form part of the run. Projection or abrupt shoulder 16 prevents the loop 21 from sliding rearwardly on the latch member beyond the notch 4 and, as said loop contacts this part of the latch member while the needle is being pushed downwardly through the fabric, the latch member is caused to slide back away from the point of the hook until the end 17 of the flattened portion 13 contacts the inner side of the closed end 11. At this stage of the operation of the needle the point of the hook 10 will be below and beyond the straightened cross thread 22, and, as the upward movement of the needle starts, the hook 10 picks up the thread 22, and the loop 21 (which lies in the notch 4) forces the latch member downwardly so that the point of the hook enters the opening 5 and closes the hook. The loop 21, lying in the notch 4, then slides downwardly over the top of the beveled portion 3 and over the hook 10, leaving the thread 22 in the hook portion to form a new loop. The downward and upward movements of the needle are then repeated. On each such downward movement, the loop lying in the hook slips up over the beveled portion 3 into the notch 4 and opens the hook as the point of the hook passes below the next adjacent cross thread; and on each upward movement of the needle the hook grasps the adjacent cross thread, and loop lying in said notch closes the hook and slides over the top of the beveled face 3 and the hook 10, leaving the cross thread in the hook to form a new loop. Thus each thread of the ladder constituting the run is successively picked up by the hook and formed by the needle into a new loop as the needle proceeds along the ladder to the end of the run.

A tacking operation with an ordinary needle and thread is then resorted to, such needle and thread being used to fasten or tie the last loop (brought to this point by the repairing needle herein described) so as to prevent a recurrence of the run. Those skilled in the art of repairing such fabrics are familiar with the so-called "tacking" operation and in many instances are able to close the original break in the fabric in such manner as to constitute a substantially invisible repair. It is therefore unnecessary here to describe this tacking operation. Moreover the purpose of my new needle is not to do this tacking work, (which can best be done by employment of an ordinary sewing needle and thread) but to repair the "run," however long or wide it may be.

While my needle is preferably made in the manner above stated, it may also be made in a variety of forms one of which is shown in Figs. 6 and 7, wherein 23 is the body member having a hook 24 at one end. There is also a longitudinal channel or groove 25 in said body member in which channel or groove the latch member 26 lies, being held in place by rivets 27, 27 which extend through slots 28, 28, thus providing for a limited longitudinal sliding movement of the latch member so that it may open and close the hook at proper times as herein explained. The latch member 26 also has a beveled portion 29, with an opening in such beveled portion to admit the point of the needle. There is also the notch 30 and a projection or abrupt shoulder 31, both of which function similarly to corresponding features of the preferred form of my needle as herein shown and described.

The rear end of my needle may be encompassed by a suitable handle 32, or the needle may be operated without any separate handle member by holding the body of the needle in the hand.

In operation it is preferred to hold the needle in lateral alignment with the run being repaired, the rear portion of the needle being elevated so that the needle will form an angle with the fabric undergoing repair, such angle being increased slightly when the fabric being repaired has an increased number of cross-threads per inch and decreased slightly when the fabric being repaired has a decreased number of cross-threads per inch. In other words the greater the number of cross-threads per inch in the fabric to be repaired the greater the angle which should be maintained between the needle and the fabric in which it is used. The needle may, however, be operated satisfactorily when it is held slightly out of such lateral alignment with the run.

While means for limiting the sliding movement of the latch and preventing it from turning are preferably integral features of the body member, these functions may be accomplished by various other means such as the slots and rivets shown in Figs. 6 and 7, and also by the means illustrated in Fig. 8, wherein 33 is the rear portion of the body

member of a needle and 35 is the latch member, the rear end of such latch member being made substantially half-round. 34 is a closure member which fits tightly into the body member and which also has a substantially half-round portion. By means of these half-round portions of 34 and 35, which overlap as indicated, it is obvious that the latch member (which is slideably fitted into 33 whereas 34 is tightly secured therein) can slide longitudinally within predetermined limits, as indicated by spaces 36 and 37, but is restrained from any objectionable turning movement, thus keeping the opening 5 in the beveled face 3 of the latch member in position to receive the point of the hook whenever the latch member contacts the hook.

The word "channel," as herein used, is to be understood to mean any opening in the body member wherein the latch may slide as it moves back and forth longitudinally of the body member for the purpose stated.

The term "latch" or "sliding latch" as herein used, is to be understood as meaning any type of rod, plate or device adapted to slide back and forth along the body member for the purpose stated.

It is to be noted that in the preferred form of the completed needle as shown in Figs. 1 and 2 point 38 of latch member 1 lies at all times below the upper edges 8' of the substantially half-round or open-channel portion 8. This is necessary in order that a loop lying in the hook 10 may move upwardly over the beveled surface 3 and into the notch 4 without catching under said point 38.

One of the most important features of my needle is the sliding latch member. In order that a needle of the sliding latch type may operate rapidly and without serious eye-strain on the part of the user in the repairing of runs and ravellings in hosiery and the like, it is necessary that the needle shall be automatically checked at the proper point during the descending movement of the needle through the fabric and that the hook portion of the needle shall be automatically opened and closed at exactly the right instants during the downward and upward movement of the needle, otherwise the needle will not function properly. If the latch closes the hook too quickly, the hook will fail to pick up the proper thread and, if the latch closes the hook too slowly, the descending loop will slip into the hook instead of sliding over it. My needle has means especially adapted to overcome these difficulties, the contour of the upper surface of the latch including a transverse notch, the front side of which inclines gradually upwardly in the direction of the hook and the rear side of which constitutes an abrupt shoulder, such shoulder serving to prevent the thread or loop lying in the notch from sliding rearwardly out of such notch and the front side of the notch with its gradual upward slope making egress from the notch in the direction of the hook relatively easy. This construction of the notch serves the purpose of preventing the loop or thread lying in the notch from slipping over the latch to a point above the notch during the downward movement of the needle and thus causing the latch to close prematurely during the succeeding upward movement of the needle; it also serves the purpose of automatically checking the downward movement of the needle at a point where the hook lies close below the first cross-thread of the run so that such cross-thread will be automatically picked up by the hook when the upward movement of the needle starts. In other words, by reason of the particular conformation of the upper surface of the latch as herein described and particularly the notch portion thereof, the needle is caused to stop automatically at the proper point during its descent through the fabric so that the proper cross-thread is picked up by the hook on the return movement of the needle, and the backward and forward movements of the latch with reference to the hook are automatically timed so as to open and close the hook at the exact instants necessary in order to inclose within the hook the thread picked up by the hook at the beginning of the upward movement of the needle and to permit the descending loop to slide downwardly over the hook from its position in the notched portion of the latch so that the cross-thread in the ascending hook will form a new loop as herein stated; and, as the downward and upward movements of the needle through the fabric are repeated, the run or ravelling is repaired by the needle in a substantially automatic manner.

The close proximity of the notch to the beveled front end of the latch is also of special importance since, if the notch were more remote from the beveled front end of the latch, the hook would be apt to pick up the wrong cross-thread and the opening and closing of the latch would be wrongly timed, thus interfering with the proper functioning of the needle as a means of automatically repairing runs and ravelings in hosiery and the like.

What I claim is:—

1. A needle comprising a member having a hook and an operatively connected sliding latch member adapted to be moved by a thread to open and closed positions with reference to said hook, the outer surface of the forward end of said latch member slanting upwardly and rearwardly then downwardly and rearwardly and then extending upwardly to form an abrupt shoulder such upwardly extending surface being on a line substantially equivalent to a right angle with

the direction of the movement of the latch in said needle.

2. A needle comprising a handle portion and an operatively connected hook portion, and a sliding latch portion having in its upper surface a transverse notch adapted for the reception of a thread whereby the latch may be moved to open and closed positions with reference to the hook, the side of the notch adjacent said hook forming a materially less abrupt shoulder than the opposite side of said notch whereby a thread lying in said notch is restrained from sliding out of said notch in a direction away from the hook but is permitted to slide relatively easily out of said notch in a direction toward said hook.

3. A needle comprising a channeled member having at one end thereof a hook and at the other end a handle portion, and a sliding latch member adapted to lie in said channel, the forward end of said latch member having an upwardly and rearwardly extending beveled face with an opening therein adapted to receive the point of the hook, said latch also having a transverse notch in its outer surface said notch being adapted to receive a thread whereby the latch may be moved back and forth in said channel to open and close said hook, the upper end of one side of the notch and the upper end of the beveled face being contiguous.

4. A needle comprising a channeled member having at one end thereof a hook and having adjacent the other end a handle portion, and a sliding latch member adapted to be moved by a thread back and forth in said channel to open and closed positions with reference to said hook, the outer surface of the end of the latch adjacent the hook slanting upwardly and rearwardly then downwardly and rearwardly and then extending upwardly in a direction substantially equivalent to a right angle with the direction of the movement of the latch in the needle to form an abrupt shoulder, said shoulder being adapted to act as a barrier against the movement of a thread along the upper surface of said latch rearwardly over said shoulder.

5. In a needle a handle portion and an operatively connected tube portion and a hook, and a sliding latch member adapted to be moved by a thread back and forth in said tube portion to open and close said hook, said latch member having on one side thereof adjacent its rear end a depression with a longitudinally disposed flat surface adapted to coact with the adjacent portion of the needle to restrain within fixed limits both the turning movement and the endwise movement of the latch in said tube portion.

6. In a sliding latch for needles and the like a beveled face extending upwardly and rearwardly from the front end thereof, such beveled face having an opening therein, the latch also having in its upper surface a transverse notch, the upper end of one side of the notch and the upper end of the beveled face being contiguous.

In testimony whereof I have affixed my signature.

STANLEY W. FINCH